TABLES

Table 1-1
Summary of Compliance
September 2005

Extraction Well Network	Compliance Criteria Met (yes/no)	Comments
Flow Rate Performance - Target Extraction Rate		
Newmark North Extraction Well Network	No	The City is unable to sustain the three month rolling average Target Extraction Rate for the Newmark North extraction well network (see Table 2-3). A letter informing the EPA and DTSC of this condition was sent out on July 25, 2005. An evaluation of the
Newmark Plume Front Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Muscoy Plume Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Flow Performance - Particle Tracking		
Newmark Plume Front Extraction Well Network	NA	Flow performance criteria for the Newmark OU IRA are not applicable until particle tracking methodology is established in an approved Operational Sampling and Analysis Plan
Muscoy Plume Extraction Well Network	NA	Flow performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Contaminant Performance - Downgradient Monitoring Wells		
Newmark Plume Front Extraction Well Network	NA	The first monitoring well sampling round for evaluating contaminant performance will be conducted in November 2005
Muscoy Plume Extraction Well Network	NA	Contaminant performance criteria are not applicable until the Muscoy OU is declared Operational and Functional

Table 2-1
Summary of Newmark OU O&M - Extraction Wells

Reporting Period: September 1, 2005 - September 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 6 years 0 months

Newmark North Plant Extraction Well Network (EPA 006, EPA 007, Newmark 3)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	EPA 006 is operating on an approximate 12 hour daily schedule due to the pump breaking suction after extended pumping periods. The pump was last tested on June 30, 2005.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	Unable to meet the three month rolling average Target Extraction Rate (see the letter to the EPA/DTSC dated July 25, 2005).
Newmark Plume Front Extraction Well Network (EPA 001, EPA 002, EPA 003, EPA 004, EPA 005)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	1. EPA 002 Well failed. 2. Electrical Storm resulting in temporary equipment failures at EPA 001, EPA002 and EPA003, Wells faulted on overload and were restarted within 2 hours. This occurred at 6:00 a.m. on 9/20/05
Description of Process Improvements Implemented	1. Replaced O.I.B. (Operator Interface Board) well EPA002. 2. Reset above equipment.
Deviations from the Operational Requirements of the Consent Decree	None

Table 2-2
Summary of Extraction Well Flow Data
September 2005

Extraction Well[2]	Monthly Extracted Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Cumulative Volume Extracted[1] (acre-ft)	Number of Days in Month =	30
				Monthly Run Time (days)	Monthly Down Time (days)
Newmark North Plant Extraction Well Network					
EPA 006	50.3	380	3,378	14.8	15.2
EPA 007	177.7	1,340	7,224	29.9	0.1
Newmark 3	117.7	888	5,043	29.9	0.1
Network Total	**345.8**	**2,608**	**15,644**		
Newmark Plume Front Extraction Well Network					
EPA 001	199.1	1,502	9,608	30.1	-0.1
EPA 002	177.7	1,341	10,687	28.7	1.3
EPA 003	197.2	1,487	12,273	29.9	0.1
EPA 004	216.7	1,634	11,498	29.8	0.2
EPA 005	206.5	1,557	10,355	29.9	0.1
Network Total	**997.1**	**7,521**	**54,420**		

Notes:

Per the terms of the Statement of Work, once Muscoy is declared O&F the City will be required to demonstrate flow compliance with each extraction well networks Target Extraction Rates considering the specified maintenance allowances. At such time the City will provide the supporting calculations in a tabular format.

NA - Not available

(1) - Cumulative volume extracted since Newmark OU System Operations Date (October 1, 2000)

Table 2-3
Three Month Rolling Average Extraction Volume and Rate Calculations
September 2005

Extraction Well	Total Volume Pumped In The Last Three Months (acre-ft)	Three Month Rolling Average Extraction Rate (gallons/month)	Monthly Target Extraction Rate[1] (gallons/month)	Three Month Rolling Extraction Rate (gpm)	Design Extraction Rate (gpm)	Target Extraction Rate With Maintenance Allowance[2] (gpm)	Difference Between Three Month Rolling Average and TER (gpm)
Newmark North Plant Extraction Well Network							
EPA 006	138	1.500E+07	3.960E+07	340	1,000	905	-565
EPA 007	524	5.696E+07	5.148E+07	1,290	1,300	1,176	113
Newmark 3	339	3.684E+07	6.336E+07	834	1,600	1,448	-613
	1,002	**1.088E+08**	**1.544E+08**	**2,464**	**3,900**	**3,529**	**-1,065**

Notes:
The Newmark Plume Front extraction well network is not included in this table since three month rolling average extraction criteria will not be in effect until the Muscoy Plume Front extraction well network is declared operational and functional.
(1) - The Target Extraction criteria in Section III.B.3 of the SOW is expressed as gallons per month.
(2) - Target extraction rates are the design extraction rates adjusted for the maintenance allowance.

Table 2- 4
Extraction Well Monitoring Results - PCE and TCE
September 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North Extraction Well Network			
EPA 006	No Samples collected during the reporting period	NM	NM
EPA 007	No Samples collected during the reporting period	NM	NM
Newmark 3	No Samples collected during the reporting period	NM	NM
Newmark Plume Front Extraction Well Network			
EPA 001	No Samples collected during the reporting period	NM	NM
EPA 002	No Samples collected during the reporting period	NM	NM
EPA 003	No Samples collected during the reporting period	NM	NM
EPA 004	No Samples collected during the reporting period	NM	NM
EPA 005	No Samples collected during the reporting period	NM	NM

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validating laboratory data.
NM - Not monitored during the reporting period

Table 3-1
Summary of Newmark OU O&M - GAC Treatment Plants

Reporting Period: September 1, 2005 - September 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 6 years 0 months

Newmark North GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	1. Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve. Lids are extremely difficult to open. 2. Contamination Breakthrough Lead "B" Vessels. 3. changed out Vessels 1,2,& 3 failed bacti testing.
Description of Process Improvements Implemented	1. No corrective action seen for above vaults. 2. GAC change out - 7 "B" Vessels installed new carbon in 7 lead vessels. 140,000 pounds total. 3. Vessels 1,2 & 3 scheduled to be caustic scrubbed October 10, 2005.
Deviations from the Operational Requirements of the Consent Decree	None
17th Street GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
Waterman GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve lids are extremely difficult to open.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 3-2
Summary of Treatment Plant Flow Data and Mass Removal Estimates
September 2005

Treatment Plant	Extraction Wells Treated By Plant	Treated Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Estimated Monthly GAC Mass Removal [(1)] (lbs)	Estimated Cumulative GAC Mass Removal[(2)] (lbs)
Newmark North GAC Treatment Plant	EPA 006, EPA 007 and Newmark 3	345.8	2,608	4.8	273.2
17th Street GAC Treatment Plant	EPA 003	197.2	1,487	2.7	188.7
Waterman GAC Treatment Plant [(3)]	EPA 002, EPA 004 and EPA 005	600.9	4,532	2.0	463.6
Total		**1143.9**	**8627.4**	**9.4**	**925.5**

Notes:

(1) - Monthly mass removal estimates are based on Monthly Treatment Summary sheets documented in monthly DHS reports.

(2) - Cumulative mass removal estimates are for the period since Newmark was declared O&F (October 1, 2000). The historical estimate prior to Consent decree entry is based on a combination of carbon life loading history data and Monthly Treatment Summary spreadsheet.

(3) - Since the beginning of March extracted groundwater from EW-1 has been diverted to the 19th Street Treatment Plant. Therefore, the sum of volume of groundwater extracted from Newmark OU wells is different then the sum of the volume treated by the Newmark OU treatment plants.

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
September 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North GAC Treatment Plant			
Influent	22-Sep-05	4.1	0.5
Lead Vessel 1	1-Sep-05	5.2	1.0
	8-Sep-05	4.7	1.0
	22-Sep-05	<0.5	<0.5
Lead Vessel 2	1-Sep-05	6.2	1.0
	8-Sep-05	5.7	1.0
	22-Sep-05	<0.5	<0.5
Lead Vessel 3	1-Sep-05	7.6	1.6
	8-Sep-05	7.9	1.6
	22-Sep-05	<0.5	<0.5
Lead Vessel 4	1-Sep-05	5.7	1.2
	8-Sep-05	5.4	1.2
	22-Sep-05	<0.5	<0.5
Lead Vessel 5	1-Sep-05	5.4	1.0
	8-Sep-05	5.2	1.0
	15-Sep-05	5.4	1.0
	22-Sep-05	<0.5	<0.5
Lead Vessel 6	1-Sep-05	5.5	1.1
	8-Sep-05	5.2	1.0
	15-Sep-05	5.3	1.0
	22-Sep-05	<0.5	<0.5
Lead Vessel 7	1-Sep-05	5.0	0.9
	8-Sep-05	4.7	0.8
	15-Sep-05	4.7	0.8
	22-Sep-05	<0.5	<0.5
Combined Effluent	1-Sep-05	<0.5	<0.5
	8-Sep-05	<0.5	<0.5
	15-Sep-05	<0.5	<0.5
	22-Sep-05	<0.5	<0.5
	29-Sep-05	<0.5	<0.5
17th Street GAC Treatment Plant			
Influent	22-Sep-05	3.4	0.8
Lead Vessel 1	1-Sep-05	3.8	1.4
	8-Sep-05	3.7	1.4
	15-Sep-05	3.7	1.3
	22-Sep-05	3.8	1.4
	29-Sep-05	3.7	1.3
Lead Vessel 2	1-Sep-05	4.3	1.4
	8-Sep-05	4.2	1.5
	15-Sep-05	4.2	1.3

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
September 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
	22-Sep-05	4.1	1.3
	29-Sep-05	4.2	1.3
Lead Vessel 3	1-Sep-05	4.4	1.4
	8-Sep-05	4.1	1.4
	15-Sep-05	4.4	1.4
	22-Sep-05	4.3	1.4
	29-Sep-05	4.3	1.3
Combined Effluent	1-Sep-05	<0.5	<0.5
	8-Sep-05	<0.5	<0.5
	15-Sep-05	<0.5	<0.5
	22-Sep-05	<0.5	<0.5
	29-Sep-05	<0.5	<0.5
Waterman GAC Treatment Plant			
Influent	22-Sep-05	2.3	0.7
Lead Vessel 1	22-Sep-05	1.6	1.2
Lead Vessel 2	22-Sep-05	0.8	1.0
Lead Vessel 3	22-Sep-05	1.4	1.1
Lead Vessel 4	22-Sep-05	2.4	1.2
Lead Vessel 5	22-Sep-05	1.8	1.2
Lead Vessel 6	22-Sep-05	2.8	2.2
Lead Vessel 7	22-Sep-05	2.2	1.2
Lead Vessel 8	22-Sep-05	2.4	1.3
Combined Effluent	1-Sep-05	<0.5	<0.5
	8-Sep-05	<0.5	<0.5
	15-Sep-05	<0.5	<0.5
	22-Sep-05	<0.5	<0.5
	29-Sep-05	<0.5	<0.5

Notes:
These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit.
NM - Not monitored during the reporting period

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: September 1, 2005 - September 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 6 years 0 months

Newmark and Muscoy OU Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Periodic download of RTU based water level data. Collection of manual water levels to verify RTU based readings.
Description of Problems Encountered	Elevation offsets within the software were inadvertently reset during contractor programming activities. The offsets for 6 monitoring wells were affected. This resulted in skewed readings for water level at select locations. Corrections were applied to the data to correct the water level elevations and the RTU's were reprogrammed with the correct offsets. In addition, in some instances incorrect elevation offsets were programmed into the RTU. This resulted in incorrect transducer water level readings and poor comparison of transducer and hand water level data. Verification of hand level data were not consistently collected for all wells and/or transposing of hand level data occurred during entry into data sheets. This resulted in loss of verification data and had a minor effect on data corrections/interpretations. In some instances hand level data and RTU data vary by more than 0.3 ft. The City's action level is 0.3 ft therefore elevation offsets for the affected wells will need to be modified.
Description of Process Improvements Implemented	Implemented new policy to control personnel and outside contractors access to the SCADA/RTU systems. Instituted new electronic field data entry form to minimize errors and provide instant feedback on potential well head measurement inaccuracies, real time comparison of hand level, RTU water level and transducer elevation offset drift. New field form also helps to assure that a basic set of information will be collected site wide and provides standard comments and notes to more accurately determine the extent and nature of work completed at each site during the monitoring period. Completed field verification on surveyed elevations and measuring points used during monitoring. Where these differed, measured an elevation offset and entered data into field entry data form.
Deviations from the Operational Requirements of the Consent Decree	None. Daily water level readings were collected each day as required by the SOW.
Newmark and Muscoy OU Extraction Wells	
Description Routine Monitoring and Maintenance Performed	Periodic downloaded water level data from RTUs as part of the completion of the Muscoy OU startup aquifer testing (per the schedule in the EPA/URS Field Sampling Plan) and less frequently for extraction wells monitored as part of Newmark OU IRA operations. Repaired EPA 111 sensors PA,PB,PC and PD. Collected monthly water levels from extraction well casings.
Description of Problems Encountered	Elevation offsets were inadvertantly reset during contractor programming activities. The offset for 8 extraction wells were affected. This resulted in skewed readings for water level at select locations. This resuled in incorrect transducer water level readings and poor comparison of transducer and hadn level datal. Corrections were applied to the data to correct the water level elevations and the RTUs were reporgrammed with the correct offsets. Verification hand level data were not consistently collected for all wells and/.or transposing of hand level data ocfcurred udring entry intod data sheets. This resuled in loss of verificaiton data and had a minor effect on data corrections/interpretaitons. In some instances hand level data and RTU data vary by more thant 0.3f ft. The City's action level is 0.3 ft, therefore elevations offsets for the affected wells will need to be modified. RTU memory failures occurred at onel location (EPA 007). In this case daily water level readings were able to be recovered throught the SCADA system.
Description of Process Improvements Implemented	Implemented new policy to control personnel and outside contractor access to the SCADA/RTU Systems. Instituted new electronic field data entry form to minimize errors and provide instant feedback on potential well head measurement inaccuracies, real time comparison of hand level and RTU water level, and transducer elevation offset drift. Implemented new policy to control personnel and outside contractors access to the SCADA/RTU systems. Instituted new electronic field data entry form to minimize errors and provide instant feedback on potential well head measurements inaccuracies, real time comparison on hand level and RTU water level, and transducer elevation offset drift. New field form also helps to assure that a basic set of information will be collected site wide and provides standard comments and notes to more accurately determine the extent and nature of work completed at each site during the monitoring period. Completed field verification of surveyed elevations and measuring points used during monitoring . Where these differed measured an elevation offset and entered data into field entry data form.
Deviations from the Operational Requirements of the Consent Decree	The monthly manual water level from the extraction well casing was not collected for EPA 007 during August.

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: September 1, 2005 - September 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 6 years 0 months

Site-Wide Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Collected monthly manual water level measurements on July 20/22/26, 2005. August 29, 2005 and September 26, 2005
Description of Problems Encountered	The City is unable to collect Site-Wide manual water levels from a some of wells designated in the SOW due to access limitations, water level depths beyond the length of the sounding tape, or omissions. In addition, the City has not been able to locate one well (PZ125) it appears the well has been paved over.
Description of Process Improvements Implemented	Instituted new electronic field data entry form to query collection of data from the entire well list and minimize data entry errors. New field form also helps to assure that a basic set of information will be collected site wide and provides standard comments and notes to more accurately determine the extent and nature of work completed at each site during the monitoring period. complete a field verification of surveyed elevations and measuring points used during monitoring. Where these differed, the elevation offsets were measured and used to estimate the elevation of the actual measurement reference point. The revised reference elevations were entered into new electronic data entry field form.
Deviations from the Operational Requirements of the Consent Decree	The Site-Wide manual water levels were not collected from the following wells: MW 126(well appears to be dry), PZ-124(well appears to be dry, PZ 125(well appears to have been paved over(, 16th & Sierra (unable to get sounder down next to column pipe for the August and September measurements), Muscoy Mutual No. 5 (air line installed by Muscoy Mutual prevents the lowering of the sounding tape and we are not authorized to remove; July August and September rounds), MW Paperboard (depth to water beyond the length of the water level measuring tape is September)
Wells Monitored Voluntarily	
Description of Routine Monitoring and Maintenance Performed	Collected monthly manual water level measurements on August 29, 2005 and September 26, 2005. Downloaded electronic water level data from USGS website.
Description of Problems Encountered	31st and Mt. View is located in a confined space, the City is in the process of developing an alternative measuring method to monitor this well.

Note:
This table includes a summary of the water level monitoring issues that occurred over the entire water level monitoring reporting period for the Third Quarter 2005 (July 1 to September 30, 2005).

Table 6-1
Schedule of Upcoming O&M, Monitoring and Reporting Events
Planning Period: October/November 2005

Task/Item	Planned Event
Newmark OU Extraction Wells	
Pump/Well Maintenance	Pumping equipment change out EPA 003 - anticipated December 2005
Electrical/Controller Maintenance	Routine
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability, changing radio frequency. Troubleshoot and repair RTUs and RTU programming as needed.
Extraction Well Monitoring	Download water level data and check RTU offsets.
Other	None
Newmark OU Treatment Plants	
Carbon Change Outs	Caustic scrub on vessels 1,2, & 3 on October 10/10/05, Change out 17th Street "A" Vessels
Electrical/Controller Maintenance	None
SCADA System and RTU System Maintenance	None
Treatment System Monitoring	Routine treatment plant sampling
Other	None
Monitoring Wells	
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability. Troubleshoot and repair RTUs and RTU programming as needed.
Water Level Monitoring - SCADA Wells	Download water level data and check elevation offsets. Troubleshoot and repair transducers as needed.
Water Level Monitoring - Site-Wide Well	Collect monthly manual water levels
Monitoring Well sampling	Semi-annual diffusion bag sampling scheduled for November 2005. EPA/URS sampling will be performed in support of Muscoy OU one-year performance evaluation.
Other	None
Project Documents	
Progress Report - October 2005	Scheduled to be submitted November 30, 2005.
QA/QC and OSAP Plans	Scheduled submittal date based on April 5, 2005 receipt of Site Wide QA/QC plan is October 5, 2005. The City has submitted a request for extension of time until November 7, 2005.
Community Relations	
Fact Sheets	None planned
Community Meetings	None planned

Table 6-2
Submittal of Deliverables/Documents For 2005

Deliverable	Date Submitted	Status
Groundwater Modeling Work Plan	April 15, 2005	Approved by EPA in Correspondence Dated May 26, 2005
Transmittal of Treatment Plant and Extraction Well Flow Data - March/April 2005	May 31, 2005	Submitted to EPA and DTSC.
Progress Report - March/April 2005	June 14, 2005	Submitted to EPA and DTSC. This is the first monthly progress report submitted. Review and comment pending.
Letter requesting an extension for QA/QC Plan Submittal	June 15, 2005	Currently negotiating the terms of the extension with EPA. QA/QC Plan due date suspended during this time.
Health and Safety Plan	June 17, 2005	Submitted to EPA and DTSC.
Operations and Maintenance Plan	June 17, 2005	Submitted to EPA and DTSC.
Time Line and Schedule	June 21, 2005	Submitted to EPA and DTSC.
Staffing Plan	June 21, 2005	Submitted to EPA and DTSC.
Progress Report - May 2005	June 30, 2005	Submitted to EPA and DTSC.
North Plant Target Extraction Rate Notification	July 25, 2005	Submitted to EPA and DTSC.
Progress Report - June 2005	July 31, 2005	Submitted to EPA and DTSC
Progress Report - July 2005	August 31, 2005	Submitted to EPA and DTSC
Letter requesting an extension for Baseline Mitigation Plan Submittal	September 22, 2005	Submitted to EPA and DTSC
Progress Report - August 2005	September 30, 2005	Submitted to EPA and DTSC

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
Sep-05

Modeling Component	Progress Summary
Activities Conducted During The Reporting Period	
Data Compilation	1) Researched and developed GIS coverage's for historical land -use in the Basin
Conceptual Model Development	1) Documented conceptual model approach, process and results 2) Extended the conceptual model basin -wide (with Geosciences) and refined within the NGFM area
Model Construction	Continued to methodically refine model as follows: a) Conversion from transmissivity model to hydrostratigraphic model - two layer b) Conversion from transmissivity model to hydrostratigraphic model - five layer -estimated c) creation of refined stream flow routing package
Model Calibration	1) Calibration continued with evaluating each of the above described runs with the USGS model for calibration of water balance and head values 2) Development of Calibration Plan
Meetings	none scheduled
Activities Planned/Conducted in October and November	
Data Compilation	1) Continue to catalogue data received to date 2) Follow-up on previous requests for data that have not been fulfilled
Conceptual Model Development	1) Meet with Wes Danskin and John Matty (USGS) to identify pertinent flow barriers (faults) within model domain 2) Continue to document conceptual model approach, process and results 3) Refine the conceptual model basin -wide (with Geosciences)
Model Construction	Continue to methodically refine model as follows: a) refinement to five-layer model b) incorporation of hydrostratigraphy detailed in the conceptual model b) refine time steps
Model Calibration	1) Complete draft Calibration Plan and present for comments to the TAC 2) Initiate execution of the Calibration Plan
Meetings	1) Working Group Meeting tentatively scheduled for second half of October 2) Meet with Wes Danskin and John Matty (USGS) to discuss conceptual model

Note:
The Newmark Groundwater Flow Model is being co-developed with the Regional Basin Flow Model. As such, the City of San Bernardino Water Department's consultant (SECOR) is working jointly with San Bernardino Valley Municipal Water District's consultant (GEOSCIENCE Support Services) to fulfill both parties modeling objectives. This table provides a summary of the activities performed and activities planned in support of this joint venture.